REMARKS

I. <u>Status of the Application</u>

Claims 1-20 are pending in this application. In the October 27, 2008 office action, the Examiner:

A. Rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,847,300 to Yee et al. ("Yee") in view of U.S. Patent No. 5,644,271 to Mollov et al. ("Mollov").

In this response, applicants have amended claim 15 to correct an inadvertent typographical error, and have amended claim 7 to replace "operable to" with "configured to", which are synonymous. Applicants respectfully traverse the rejections of claims 1-20 and request reconsideration of the application in view of the following remarks.

II. <u>Claim 1 is Not Obvious Over Yee and Mollov</u>

Claim 1 stands rejected as allegedly being rendered obvious over Yee in view of Mollov. As will be discussed below in detail, there is no legally sufficient reason, motivation or suggestion to combine Yee and Mollov as proposed by the Examiner. As a consequence, it is respectfully submitted that the obviousness rejection of claim 1 should be withdrawn.

A. <u>Claim 1</u>

Claim 1 is directed to an arrangement for adjusting a time keeping function of a utility meter that includes at least one sensor and a processing circuit. The sensor is configured to

detect a temperature at a location proximate a time keeping component. The time keeping component generates time signals at a rate that varies as a function of temperature. The at least one sensor is further configured to generate an output signal representative of the detected temperature. The processing circuit is configured to adjust at least one clock maintained by the time keeping function of the meter in dependence upon the output signal from the at least one sensor.

Thus, the processing circuit adjusts a clock in dependence upon the sensed temperature information. This adjustment may be used to (at least partially) correct for the variance of time keeping function as a function of temperature. (See e.g. specification at p.3, line 14 to p.4, line 6).

B.   Yee

Yee is directed to an electric power meter that includes a temperature sensor and a controller. The controller is operable, based on the temperature reported from the temperature sensor, to generate alarms when the temperature exceeds a threshold, and/or or to open a disconnect switch to shut off power to a load. The controller of Yee may also open the disconnect switch due to non-payment. (Yee at Abstract).

C.   Mollov

Mollov is directed to a circuit that compensates a clock based on temperature variations. In particular, for a clock that employs a crystal oscillator, the Mollov circuit compensates for the affects of temperature on the crystal oscillator.

D.   The Proposed Combination

In the October 27, 2008 office action, the Examiner has admitted that Yee does not teach adjusting clock information on the basis of sensed temperature information, as per claim 1. (October 27, 2008 office action at p.4). The Examiner addresses the shortcoming of Yee with respect to the temperature-based clock adjustment by citing the teachings of Mollov. In support of this rejection, the Examiner stated that:

> It would've been obvious to one of ordinary skill in the art at the time of the invention to modify Yee et al. invention to include adjusting/varying clock/timing information in dependence on the output signal that is representative/function of temperature in order to provide an accurate time source. (Col. 9, lines 19-20).

Applicants respectfully submit that the Examiner has not provided a clearly articulated reason to modify the Yee device.

In particular, there is no evidence on the record that the Yee time source has a temperature dependent accuracy issue that would need adjustment. The Examiner has not cited any evidence that indicates that the real-time clock of Yee suffers from inaccuracy due to temperature variation. While the evidence on the record may allow the inference that at least some crystal oscillators in some circumstances may require temperature compensation, there is no evidence that the device of Yee has such circumstances, or has such crystal oscillators. More importantly, there is no evidence on the record that indicates that the level of inaccuracy of crystal oscillators would adversely affect the use of the real-time clock in Yee.

To this end, it is noted that the only apparent use of the crystal oscillator clock in Yee is to keep time when there is a power outage. (Yee at col. 3, lines 42-52). However, no reason is given for maintaining the clock during a power outage. It is possible that the real-

time clock is maintained so that the real-time clock will be "up to date" when power is eventually restored. However, there is no indication that use of the real-time clock in Yee requires the clock to have a level of accuracy not achievable using conventional means of restoring the real-time clock in a meter after a power outage.

By contrast, the inventors have implemented a device that employs a highly accurate clock for providing time-of-use metering capabilities immediately after restoration from a power outage. It was discovered by the inventors that time-of-use metering was sometimes inaccurate after a power outage, and that it was temperature variations affecting the crystal oscillator, which was used to maintain the clock during the outage, that contributed to these variations.

Yee, by contrast, does not appear to have any issues with the accuracy of its real-time clock. Yee certainly has not attributed any inaccuracies due to temperature variation. Accordingly, it is respectfully submitted that the Examiner has not provided a clearly articulated reason to modify the meter of Yee to include a means or circuit for compensating a real-time clock based on sensed temperature.

As a consequence, it is respectfully submitted that the obviousness rejection of claim 1 over Yee and Mollov is in error and should be withdrawn.

III. Claims 2-6

The Examiner rejected claims 2-6 over Yee and Mollov. Claims 2-6 depend from and incorporate the limitations of claim 1. The rejections of claims 2-6 depend on the condition that the limitations of claim 1 are unpatentable over Yee and Mollov. As discussed above, the

rejection of claim 1 over Yee and Mollov is in error. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claims 2-6 are in error and should be withdrawn.

IV.   Obviousness Rejection of Claim 7

Claim 7 stands rejected as allegedly being rendered obvious over Yee in view of Mollov. The Examiner relies on the same reasoning for modifying Yee with Mollov as that applied to claim 1. As discussed above, there is no legally sufficient reason to modify Yee with the teachings of Mollov as proposed. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claim 7 is in error and should be withdrawn.

Moreover, as will be discussed below in detail, the proposed combination does not arrive at the claimed invention. In particular, neither Yee nor Mollov, alone or in combination, teach or suggest a "processing circuit configured to generate metering data based on the commodity consumption information and real time clock information", as called for in claim 7. As a consequence, it is respectfully submitted that the obviousness rejection of claim 7 should be withdrawn.

In particular, claim 7 essentially recites that metering information is generated based on consumption information *and* the real-time clock. (See, e.g., specification at p.7, lines 8-13; p.22, lines 15-18). For example, time-of-use metering involves using different rates for energy consumed at different times of day, and thus requires both consumption and time information to generate the metering data. (See, e.g., specification at p.2, lines 11-18).

A.   The Rejection of Claim 7

In the rejection of claim 7, the Examiner alleged that Yee teaches determining metering data using both consumption information *and* real-time clock information, as claimed. The Examiner contended that Yee teaches this feature at col. 2, lines 28-34. (October 27, 2008 office action at p.3). The cited portion of Yee is set forth below:

> The power meter 102 measures the amount of electrical power being used by a customer. In one embodiment, the power meter 102 comprises a power disconnect switch 104, two current sensors 106, a power measurement device 108, a voltage reference 110, a controller 112, a temperature sensor 114, a photo sensor 116, a clock reference 118, and a power line carrier (PLC) interface 120. Electrical power...

(Yee at col. 2, lines 28-34). Nothing in the above-quoted paragraph teaches that *metering data* is generated based on a real-time clock. While the meter 102 of Yee does include a clock reference 118, there is nothing to indicate that the clock reference 118 is used to generate any metering data. To the contrary, as best can be discerned, the clock reference 118 of Yee *only* appears to be used in connection with determining whether to disconnect power to the load. (*Id.* at col. 10, lines 35-59). Determining whether to disconnect a load does not involve *not* metering data.

Moreover, contrary to the Examiner's apparent contention, mere inclusion of a real-time clock within a meter does not result in a "processing circuit configured to generate metering data based on the commodity consumption information and real time clock information", as claimed.

It is further noted that the Examiner does not allege that Mollov teaches or discloses such a feature.

Because neither Yee nor Mollov teach or suggest a "processing circuit configured to

generate metering data based on the commodity consumption information and real time clock information", the proposed combination does not arrive at the invention of claim 7. For at least this reason, as well as those discussed above in connection with claim 1, it is respectfully submitted that the rejection of claim 7 is in error and should be withdrawn.

V.　　Claims 8-18

Claims 8-18 also stand rejected as allegedly being obvious over Yee and Mollov. Claims 8-18 all depend from and incorporate all of the limitations of claim 7. As discussed above in connection with claims 1 and 7, there is no reason to combine Yee and Mollov such that the resulting device arrives at the invention of claim 7. Even if the references were combined as proposed, they would not arrive at a device that includes a "processing circuit configured to generate metering data based on the commodity consumption information and real time clock information". For at least these reasons, it is respectfully submitted that the obviousness rejections of claims 8-18 are in error and should be withdrawn.

A.　　Additional Reasons for the Allowance of Claims 15 and 18

Claims 15 and 18 both recite an additional sensor, and wherein the commodity consumtion information is adjusted in dependence upon the output signal of the additional sensor. Thus, through the dependence on claim 7, the invention of claims 15 and 18 involve adjusting a real-time clock based on temperature sensor information, and by their own limitations, adjusting a commodity consumption signal based on other temperature sensor information.

Yee does not teach or suggest adjusting either the real-time clock *or* commodity consumption information based on a sensed temperature value. While the Examiner proposes modifying Yee to adjust a real-time clock based on temperature as taught by Mollov, the Examiner has not provided any source that teaches *adjusting commodity consumption values* based on temperature.

Nevertheless, in the rejection, the Examiner alleged that Fig. 1 of Yee taught "the processing circuit … configured to adjust the energy consumption information in dependence upon the output signal from the at least one additional temperature sensor" of claims 15 and 18. (October 27, 2008 office action at p.3). However, nothing in Fig. 1 could possibly be argued to suggest adjusting energy consumption information based on the output of a temperature sensor.

Accordingly, for reasons additional to those discussed above in connection with claim 7, the proposed combination of Yee and Mollov does not arrive at the invention of claims 15 and 18. For at least these additional reasons, it is respectfully submitted that the rejections of claims 15 and 18 are in error and should be withdrawn.

VI.   Claims 19-20

Claims 19-20 are allowable over the prior art for substantially the same reason as those set forth above in connection with claim 1.

VII.   Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event applicant has inadvertently overlooked the need for an extension of time or payment of an additional fee, the applicant conditionally petitions therefore, and authorizes any fee deficiency to be charged to deposit account 13-0014.

Respectfully Submitted,

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